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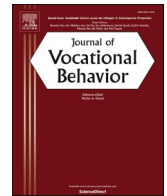
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You stay home, but we can't: Invisible 'dirty' work as calling amid COVID-19 pandemic

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ABSTRACT

Research on calling has largely focused on its benefits for employees. This study contends that experiencing work as a moral duty based calling in invisible-dirty occupations can yield both favorable and unfavorable employee outcomes. Whether employees feel burdened or supported in their work and family roles depends on the demands and resources provided by the workplace. In a sample of 175 janitors at a large government hospital designated for treating COVID-19 patients in the national capital region of India, hypothesis testing results support that work calling is positively associated with both positive (job performance, subjective career success), and negative (work-family and family-work conflicts, burnout) outcomes. Further, job demands strengthen the relationship of work calling with work-family and family-work conflicts, and burnout, whereas, job resources augment the relationship between work calling and job performance, and subjective career success.

1. Introduction

The world is currently in the throes of a pandemic, where millions of frontline health care workers engaged in low-prestige and low-wage jobs are providing critical services related to the welfare of Covid-19 patients. A number of health care workers have been infected with or even died of Covid-19 in many countries including India (Erdem & Lucey, 2021; NDTV India News, 2021). Among these frontline workers, in particular, the works of janitors heavily suffer from physical and social taints and largely remain unacknowledged (Bhuyan, 2020; Kapoor, 2020). However, despite such occupational stigma embedded in their day-to-day work and high risk of personal contamination and social exclusion, the janitors tirelessly continue to provide services amid the ongoing pandemic. In providing essential services, these duty-bound employees sacrifice their own comfort, safety, family welfare, and social inclusion. The present study, set against the backdrop of Covid-19 pandemic, attempts to understand what drives the strong service orientation of individuals engaged in invisible dirty work¹ at the cost of safety and security of self and family. We posit that these workers perceive 'work calling' based on moral duty, which makes their outcomes noble and binding. Our theorization is in line with the 'neoclassical' conceptualization of calling (Bunderson & Thompson, 2009), which asserts that calling is driven by a sense of 'moral duty' for employees, such that they feel compelled to make personal sacrifices for faithful execution of their work. Moreover, we argue that while

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¹ 'Invisible work' refers to jobs or tasks that largely remain unrecognized, undervalued, and socially marginalized, whereas, 'dirty work' is usually tainted and stigmatized.

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across a range of occupations calling has been shown to give meaning to employees (Duffy et al., 2011; Hirschi, 2012; Praskova et al., 2014; Xie et al., 2017), for invisible-dirty work the relationship may unfold in a more complex manner.

The effects of calling for employees performing invisible-dirty work can be best understood through the lens of 'neoclassical calling' (Bunderson & Thompson, 2009). In this view, a calling can transform even the most unpleasant, unrecognized, dirty tasks into ones having transcendental meaning and significance by dint of a strong moral obligation of those who are performing the tasks on a regular basis (Thompson & Christensen, 2018). We argue that in contrast to employees performing non-dirty work, the workers engaged in such occupations under the influence of calling are more likely to perceive their work as meaningful and important. This is because the neoclassical perspective emphasizes the importance of context in viewing one's work as a calling. According to Bellah et al. (1985) the effects of calling can be truly seen in 'economically marginal but symbolically significant' work. Furthermore, Bunderson and Thompson assert that "A neoclassical calling cannot inspire profound meaning without simultaneously requiring profound sacrifice (Bunderson & Thompson, 2009, p. 52)". Conceptualizing work as a calling in the context of invisible-dirty work invariably involves personal sacrifice on the part of the workers, and captures the true effect of calling. Moreover, workers' investment of personal effort in order to meet their job requirements affects them physically and psychologically (Barbier et al., 2013). We therefore postulate that the employees performing invisible-dirty work are willing to bear physical and psychological costs in lieu of the meaning and significance that they derive from their work.

We aim to make a number of contributions to literatures on work calling and invisible-dirty work. First we take calling research beyond the usual occupational contexts and explore the effects of calling for employees whose work is considered dirty and invisible. Most of the studies on work calling have focused on 'non-dirty' occupations, such as students (Hunter et al., 2010), bank personnel (Xie et al., 2017), university employees (Duffy et al., 2011), and enterprise staff (Hirschi et al., 2019). Extant research has yet to adopt the lens of either dirty work (Ashforth & Kreiner, 1999), or invisible work (Vlasses, 1997), or invisible-dirty work (Rabelo & Mahalingam, 2019) to explore the outcomes of work calling. How the sense of having a calling influences individuals engaged in undervalued occupations tainted by physical and social dirt as a meaningful question has largely remained unanswered by OB and/or HRM research. This is despite Ashforth and Kreiner's (1999) assertion that the strong need for meaning in stigmatized occupations presents a great opportunity to learn about meaningfulness of work from the experiences of dirty workers. We therefore chose to focus on janitors as invisible-dirty workers, and explain how work calling shapes their outcomes. Exploring the effects of work calling in dirty invisible work enables us to answer scholars' call (e.g., Duffy et al., 2018; Duffy & Dik, 2013) to extend and generalize theory on work calling. Our integration of dirty work and work calling literatures offers a conservative test of theory on work calling. Though dirty work literature has demonstrated that "any legitimate occupation can be considered a calling" (Duffy et al., 2018), given the stigma of dirty invisible work we expect these employees are less likely to experience the effects of work calling than the employee population at large.

Next, we integrate the literatures on work calling and invisible-dirty work with JD-R theory to understand the conditions under which calling might have positive or negative outcomes. Calling research has largely focused on positive outcomes such as employee performance and career success (Duffy et al., 2011, 2012, 2014, 2019; Xie et al., 2016); however, few scholars have theorized potential negative effects such as preoccupation with one's job that creates conflict between the demands of home and work domains leading to employee burnout (Dalla Rosa & Vianello, 2020; Duffy et al., 2016; Wilson & Britt, 2020). A few scholars have referred to calling as a 'double-edged sword' leading to both favorable and unfavorable employee outcomes (Bunderson & Thompson, 2009; Cardador & Caza, 2012; Hirschi et al., 2019; Lysova et al., 2018). Extending this line of reasoning, we argue that these mixed effects of calling can be explained in light of JD-R model (Bakker & Demerouti, 2014). JD-R model explains physical, psychological, social, and organizational aspects of the job that create demands on the workers as well as provide resource support to them for effective job performance. From a demand perspective, we expect excessive work burden to weaken the link between invisible-dirty workers' calling and their work-family integration. In contrast, from a resource perspective, we expect the availability of work resources to strengthen the link between invisible-dirty workers' calling, job performance, and subjective career success. JD-R research (Bakker & de Vries, 2021; Bakker & Demerouti, 2014) maintains that jobs come with several resources such as support from coworkers, supervisors and the overall organization, which can boost employee performance. In line with JD-R, we argue that dirty workers (i.e., janitors) amid the COVID-19 pandemic work face personal demands arising from their sense of work calling. These employees feel duty bound to risk their lives in fulfilling their calling. Perceiving work as a calling thus acts as a personal demand, whose effects are exacerbated by physical and affective demands innate to employees' jobs. However, jobs can also provide resources to alleviate the effects of personal demands engendered by work calling. Altogether, we apply JD-R to explain how calling interacts with job demands and resources to shape employee outcomes. We investigate both positive (job performance, and subjective career success) and negative (work-family and family-work conflicts, burnout) outcomes concomitantly, and present a comprehensive model of how work calling shapes employee outcomes. In doing so, we address scholars' call for research on the dark side of calling (Duffy et al., 2018) and shed light on the hidden costs of pursuing a work calling.

Finally, in their extensive review of calling research, Duffy and Dik (2013) note that "the lack of diversity overall makes it impossible to know how calling is defined and functions with individuals in, for example, Non-Western cultures". Going beyond the typical western professional or student samples, we generalize scholarship on calling to the cultural context of India.

2. Invisible-dirty work

Scholars define dirty work as "tasks that are physically, socially, or morally tainted" (Ashforth & Kreiner, 1999, p. 414). The scholars view physical taint as "a blemish on one's body," social taint as "a blemish on one's relationships," and moral taint as "a blemish on one's character" (Ashforth & Kreiner, 2014, p. 84). The jobs of frontline, low-profile health care workers providing service during the COVID-19 pandemic can be understood as *physically* and *socially* tainted for two reasons. First, the job responsibilities of

frontline health care personnel such as janitorial and cleaning staff, and mortuary workers involve physical contact with COVID-positive patients, and thus, these jobs involve high risks of contamination. Second, these workers come in regular contact with stigmatized individuals (i.e., COVID-19 patients) who carry a substantial risk of transmitting the disease to others.

Vlasses (1997) describes 'invisible' work as that which "may or may not be visible but is not recognized ... hidden, unrecognized, unaccounted-for or taken-for-granted" (p. 1). Works become invisible when they fail to constitute as 'real work' supported by dominant ideologies. Though some works, tasks, roles, or occupations are treated as invisible, it becomes all the more important to know how individual workers who perform invisible works day in and day out make sense out of their experiences. The occupation of individual workers assumes special significance in forming their experience of individual work in the presence of perceived stigmatization and emotional exhaustion (Bentein et al., 2017). We anticipate that there can be considerable overlaps between invisible and dirty work. Workers engaged in dirty work may experience devaluation, dehumanization, and mistreatment from people around them. For invisible-dirty works, employees may suffer setback in various ways including lack of inclusion in the workplace, psychological well-being, social mistreatment among others (Rabelo & Mahalingam, 2019). Cleaning of building and removing dirt in health care organizations form invisible-dirty work as the labor rendered in such works are often thankless, undervalued, and socially marginalized (Hatton, 2017; Messing, 1998).

However, despite such occupational taint and high risk of contamination while dealing with COVID-19 patients, frontline health care workers (janitors in our case) do not shy away from performing their job responsibilities amid the present crisis. At times, they may even face stiff social challenges in terms of non-cooperation and hostility exhibited towards them by their landlord, local store owners, or even suppliers of essential commodities. Though being victims of occupational stigma and social isolation, we contend that they are largely influenced by a sense of work calling. This is why they are able to make a pro-social contribution even when, because of their occupation, they are looked down upon and treated as dirty by others. However, we caveat that such meaningful and significant contributions of calling do not come without a price attached to it on their personal and family front.

3. Theoretical background and hypotheses development

3.1. Conceptualization of calling

Individuals, who experience a sense of calling to a specific domain of work, are driven by intrinsic motivation and view their work as a transcendental command that originates from *beyond the self* (Dik & Duffy, 2009). Three components are central to the concept of calling: (1) individuals feel a higher power external to them (such as God, needs of the country, or family legacy, among others) is motivating them towards a specific type of work; (2) individuals view work as a medium to extract a sense of purpose or meaning from

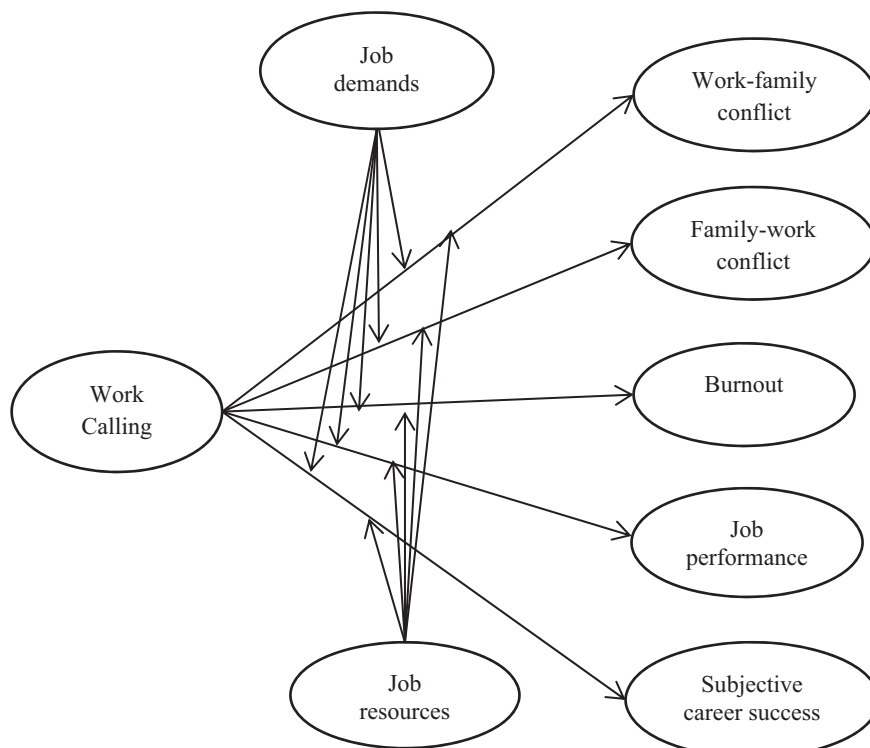


Fig. 1. The proposed conceptual model for the present study.

their lives; and (3) individuals use work as an opportunity to directly or indirectly contribute to the well-being of the society (Cinque et al., 2020; Duffy et al., 2018). The proposed conceptual framework of our study is presented in Fig. 1.

3.2. Work calling and work-family conflict

Work-family conflict refers to “a form of inter-role conflict in which the general demands of, time devoted to, and strain created by the job interfere with performing family-related responsibilities” (Netemeyer et al., 1996, p. 401). We draw on the work-home resources model (ten Brummelhuis & Bakker, 2012) to propose that a work calling may give rise to work-family conflict among invisible-dirty workers. According to this model, contextual demands in the work domain rob individuals of their personal resources and subsequently diminish outcomes in the home domain (ten Brummelhuis & Bakker, 2012). Research on calling suggests that individuals who view their work as a calling believe that a transcendent force is driving them towards a meaningful life that involves fulfilling a higher purpose, such as *servicing others* (Duffy & Dik, 2013; Hirschi et al., 2019). Integrating the perspectives on the work-home resources model, calling, and dirty occupations, we propose that workers engaged in tainted occupations (for example janitors as frontline health care personnel) who have a sense of work calling would view their job as a vehicle for fulfilling a higher purpose (such as serving the patients). Therefore, we contend that such workers with a sense of calling are likely to live their calling by investing a substantial amount of their personal resources such as time, energy, and attention to their work. This overinvestment of personal resources in the work domain would create a deficit in the family domain, due to which they would find fulfilling their family responsibilities extremely challenging. Hence, we expect that invisible-dirty workers with a sense of work calling are likely to experience work-family conflict. Our expectation is consistent with past research, which has reported increased levels of work-family conflict in older workers as a result of calling (Hirschi et al., 2019). In light of the above discussion, we hypothesize the following:

Hypothesis 1(a). Work calling is positively associated with work-family conflict.

3.3. Work calling and family-work conflict

Family-work conflict refers to “a form of inter-role conflict in which the general demands of, time devoted to, and strain created by the family interfere with performing work-related responsibilities” (Netemeyer et al., 1996, p. 401). We again use the work-home resources model to explain that work calling may also give rise to family-work conflict among invisible-dirty workers. According to this model, contextual home demands also strip individuals of their personal resources and subsequently diminish outcomes in the work domain (Hagmaier & Abele, 2012; ten Brummelhuis & Bakker, 2012). We understand that workers with a sense of calling engaged in invisible dirty occupations feel a burning passion towards their work and would, therefore, view external challenges (such as the COVID-19 pandemic situation) as an opportunity to direct their passion towards meaningful pursuit of goals (such as serving others and save lives). However, we also anticipate that family members of such workers would attempt to discourage them from performing their jobs, especially when performing certain jobs contain a high degree of risk to self and family. The family is a central institution in traditional societies like Asia, and family members play a crucial role in influencing the decisions of individuals (Brewer & Venaik, 2011). We postulate that workers engaged in tainted occupations with a sense of calling would perceive reservations voiced by their family members as a roadblock to the pursuit of living their calling, and would eventually experience family-work conflict. In view of the above, we hypothesize the following:

Hypothesis 1(b). Work calling is positively associated with family-work conflict.

3.4. Work calling and burnout

Burnout refers to “a state of physical, emotional, and mental exhaustion that results from long-term involvement in work situations that are emotionally demanding” (Schaufeli & Greenglass, 2001, p. 501). We derive support from the work as calling theory (Duffy et al., 2018), workaholism, and burnout literature to propose that work calling may give rise to burnout. Extant research reveals that individuals who perceive a calling tend to get overly engrossed in their work and experience heightened levels of work engagement (Xie et al., 2016). The work as calling theory extends this logic to suggest that “some individuals may rationalize unhealthy levels of investment in their work as necessary or even praiseworthy, given the societal and/or personal value of what they are trying to accomplish” (Duffy et al., 2018, p. 430). Recent studies have found empirical support for the linkages between calling and Workaholism (Dalla Rosa & Vianello, 2020; Keller et al., 2016). Though calling is predominantly a positive construct, workaholism has a negative connotation as it translates into increased levels of burnout (Schaufeli et al., 2009). We posit that the overinvestment of personal resources in the work domain is indicative of workaholism, which would eventually erode the worker's physical, mental, and emotional resources and make them feel burnt out, especially during a crisis situation like the COVID-19 pandemic. In sum, we expect that invisible-dirty workers with a sense of work calling would experience high levels of burnout. Hence, we hypothesize the following:

Hypothesis 1(c). Work calling is positively associated with burnout.

3.5. Work calling and job performance

Job performance refers to the extent to which employees execute their job-related duties and responsibilities effectively (Sharma & Dhar, 2016). We draw on the past calling research to examine how work calling may give rise to high levels of job performance among

invisible-dirty workers (such as janitors in health care organizations). Initial research has provided some evidence for a plausible linkage between calling and performance outcomes. For instance, a qualitative study by [Bunderson and Thompson \(2009\)](#) revealed that zookeepers with a sense of calling perform better because of occupational identification and faithful execution of work as a moral duty. In a similar qualitative study, [Duffy et al. \(2012\)](#) noted that counseling psychologists who perceive their work as a calling report high levels of energy, work passion, and productivity. A study by [Park et al. \(2016\)](#) found empirical evidence of higher job performance among salespersons who exhibit a sense of calling for their career. Extending these extant findings, we propose that frontline health care personnel during COVID-19 with a sense of calling would try to perform their work as diligently as possible, with high levels of engagement ([Hirschi, 2012](#)); commitment ([Duffy & Dik, 2013](#)); and devotion of personal resources such as time and energy ([Bunderson & Thompson, 2009](#)). Since work engagement ([Christian et al., 2011](#)) and commitment ([Carmeli & Freund, 2004](#)) have already been found to be valid predictors of job performance, we accordingly expect that the synergistic effect of these factors would translate into enhanced performance outcomes. In sum, we expect that invisible-dirty workers with a sense of work calling would exhibit high job performance. Hence, we hypothesize the following:

Hypothesis 1(d). Work calling is positively associated with job performance.

3.6. Work calling and subjective career success

Subjective career success refers to an “individual’s personal and internal apprehension and evaluation of career across any aspects that are important to that individual” ([Park, 2010, p. 2](#)). We draw on the career and calling literature to propose that work calling may lead to enhanced levels of subjective job success among invisible-dirty workers (such as janitors in our study). A few studies in the past have provided empirical evidence for this plausible linkage. For instance, a study conducted on Chinese employees revealed that calling has a positive impact on career satisfaction ([Xie et al., 2016](#)). Similarly, another study conducted in the Korean context noted that calling work orientation is a significant predictor of subjective career success ([Park, 2010](#)). Likewise, we posit that workers under the influence of calling tend to view work as an inseparable component of life and make substantial efforts to live their calling ([Duffy et al., 2017](#)). Past studies have found that living one’s calling produces desirable attitude and affective states, such as the perception that one lives a meaningful life ([Duffy et al., 2013, 2019](#)). Therefore, we contend that by virtue of a sense of calling, workers engaged in invisible dirty occupations would experience positive emotions (such as pride) and attitudes (such as satisfaction with career), and would arrive at favorable evaluations about their success in their respective career paths. In view of the above discussion, we hypothesize the following:

Hypothesis 1(e). Work calling is positively associated with subjective career success.

3.7. The moderating role of job demands

According to the job demands-resources model ([Demerouti et al., 2001](#)), work conditions can be broadly classified into job demands and job resources. Job demands are defined as “those physical, social, or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs” ([Demerouti et al., 2001, p. 501](#)). We draw on the JD-R model and calling literature to propose that job demands are crucial work-level contingency variables that may influence the strength of the linkages between work calling and individual employee level outcomes. The health impairment hypothesis states that job demands exhaust employees’ mental and physical resources, which, in turn, leads to depletion of energy or a state of exhaustion ([Bakker, Demerouti, Taris, et al., 2003](#)). Based upon this theorization, we propose that frontline healthcare personnel during COVID-19 under the influence of work calling would be prone to experiencing work-family conflict, family-work conflict, and burnout, especially as they face high job demands in terms of performing non-planned unscheduled tasks on an exigency basis, enhanced workload for an influx of patients, compensating the work for the absent colleagues etc. This is particularly true for the janitors (subject respondents in our study) as many of them have experienced substantially longer working hours than normal because the healthcare centers designated to treat COVID positive patients have witnessed influx of patients followed by shortage and absenteeism of staff during the peak periods. In addition, these low wage staff members face the burden of their own health and safety concerns. In the previous sections we have proposed hypotheses explaining how the work calling can directly influence both positive and negative outcomes for individual workers. Further, we intend to examine how the presence of job demands can influence the relationship between workers’ calling and its negative outcomes in the context of invisible-dirty works. Therefore, we postulate that if their jobs involve heavy workloads, time pressure, safety concerns, physical or emotional taxation, they will experience a depletion of their personal resources. This drainage of personal resources would be above and well beyond the work-family conflict, family-work conflict, and burnout that otherwise they would have experienced when jobs are not so demanding. Based on the above, we hypothesize the following:

Hypothesis 2(a). Job demands will positively moderate the relationship between work calling and (i) work-family conflict, (ii) family-work conflict, and (iii) burnout, respectively, such that the relationships will be stronger when job demands are high.

So far we have postulated that job demands tend to heighten the adverse impact of calling on undesirable outcomes, such as work-family conflict, family-work conflict, and burnout. We again draw on the JD-R model and calling literature to propose that job demands may also weaken the favorable impact of work calling on desirable outcomes like workers’ job performance and subjective career success. JD-R literature maintains that job demands deplete resources and worsen positive outcomes such as employees’ job engagement ([Crawford et al., 2010](#)). Job demands are also known to produce strain that, in turn, worsens job performance ([Bakker &](#)

Demerouti, 2017). Based upon this theorization, we propose that frontline health care personnel during the COVID-19 pandemic under the influence of a calling would be less likely to achieve superior job performance and experience subjective career success when they face high job demands. Analogous to our argument in the previous section, we examine here how the job demands present in invisible-dirty works can dampen the effect of workers' calling on employees' positive outcomes. In specific, we contend that if their jobs involve heavy workloads, time pressure, physical and emotional taxation, it would lead to the depletion of their personal resources that would further negate the beneficial effects of calling on job performance and subjective career success. Accordingly, the drainage of personal resources caused by high job demands would impede them from realizing the full benefits of work calling such that they would be less likely to achieve higher job performance and experience subjective career success. Based on the above, we hypothesize the following:

Hypothesis 2(b). Job demands will negatively moderate the relationship between work calling and (i) job performance and (ii) subjective career success, respectively, such that the relationships will be weaker when job demands are high.

3.8. The moderating role of job resources

Job resources are defined as “those physical, psychological, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals, (b) reduce job demands and the associated physiological and psychological costs; and (c) stimulate personal growth and development” (Demerouti et al., 2001, p. 501). We draw on the JD-R model and calling literature to propose that job resources are crucial organizational-level contingency variables that may influence the strength of work calling and its effectual outcomes in the workplace. The motivational hypothesis states that the availability of adequate job resources neutralizes job demands, allows goal accomplishment, and facilitates personal growth and development (Bakker, Demerouti, Taris, et al., 2003). Scholars argue that specific job resources when matched with specific job demands can produce an amplification effect through activity enhancement (Van Veldhoven et al., 2020). However, job resources, in general, act as a *buffer* by compensating for the harmful effects of job demands on employees' health, well-being, and performance (Bakker & de Vries, 2021; Van Veldhoven et al., 2020). Therefore, frontline health care personnel during COVID-19 who perceive a calling would be less vulnerable to experience work-family conflict, family-work conflict, and burnout when their job resources are adequate. We postulate that if their co-workers, supervisors, and organization are supportive, they would experience an augmentation of their personal resources. These augmented personal resources would allow them to neutralize the depletion of resources caused by their calling, and thus, cope better with work-family conflict, family-work conflict, and burnout. Based on the above, we hypothesize the following:

Hypothesis 3(a). Job resources will negatively moderate the relationship between work calling and (i) work-family conflict, (ii) family-work conflict, and (iii) burnout, respectively, such that the relationships will be weaker when job resources are high.

We have explained that job resources tend to nullify the adverse impact of calling on undesirable outcomes, such as work-family conflict, family-work conflict, and burnout. We further draw on the JD-R model and calling literature to propose that job resources may also strengthen the favorable impact of work calling like employees' job performance and subjective career success. Extant research suggests that the job resources largely produce beneficial outcomes for employees and their organizations. Specifically, job resources have been linked to higher levels of engagement, greater productivity, and enhanced proactivity in the workplace (Bakker & de Vries, 2021; Christian et al., 2011; Rudolph et al., 2017). Though researchers shed light on the distinct possibility where job resources may not always be beneficial, job resources, in general, provide positive support for employees' performance and well-being (Van Veldhoven et al., 2020).

Based upon this theorization, we propose that frontline health care personnel during COVID-19 under the influence of a calling would be more likely to achieve superior job performance and experience higher subjective career success when they are supported with adequate job resources in terms of work support received from their immediate supervisors and co-workers, favorable organizational policies and practices, availability of physical resources for effective task performance etc. We contend that when employees find their co-workers, supervisors, and organizations are supportive, they are likely to experience an enlarged pool of their personal resources. This availability of personal resources would boost the beneficial effects of calling on superior job performance and subjective career success. Accordingly, the enhanced pool of resources would allow individuals in tainted occupations to leverage the benefits of their calling to its full capacity. Hence, when job resources are high, invisible-dirty workers will be all the more likely to achieve higher job performance and experience subjective career success. Based on the above, we hypothesize the following:

Hypothesis 3(b). Job resources will positively moderate the relationship between work calling and (i) job performance and (ii) subjective career success, respectively, such that the relationships will be stronger when job resources are high.

4. Method

4.1. Participants

Data for analytical purposes were collected through a questionnaire based survey of janitorial staff working in a large government hospital situated in the national capital region of India. The study team contacted the deans and heads of departments of the designated hospitals handling Covid-19 patients in the national capital region (NCR) of India. After obtaining due approval from the competent authority of one such hospital, data collection for the study was initiated. The hospital was staffed with 1765 full-time Grade IV employees including janitors, ward attendants, and housekeeping staff, that were working in the general and special wards including the outdoor patient department. Data collection was carried out over the summer in 2020. The inclusion criterion for participation in

our study was that the individual should be employed in the capacity of janitor, ward attendant, or housekeeping staff at the chosen hospital. The rationale behind this decision was that the participants of this study were expected to be involved in invisible-dirty work.

4.2. Procedure

We initiated data collection after getting approval from the institutional review board (IRB) at the first author's university. For data collection, support was taken from a group of research associates reporting to the study team. The survey questionnaire was initially developed in English language and later translated to *Hindi* (the most popular common language in India) using back-translation protocol to ensure semantic equivalence (Byrne, 2016). The research associates distributed paper-pencil based questionnaires within the hospital premises. To ensure fairness and integrity among research associates, members of the study team made surprise visits during data collection. Both the data collection and study teams sought necessary approvals, and took medical precautions for visiting the hospital amid the Covid-19 pandemic. Participation was voluntary and participants were assured of the anonymity and confidentiality of their responses. During data collection, we also had casual conversations with several janitors and their supervisors to confirm the invisible and dirty nature of their work.

4.3. Common method bias

To alleviate concerns regarding the common method bias (Podsakoff et al., 2003), responses were collected in two phases separated by a time interval of two weeks. At T1, the respondents provided information on their age, gender, work experience, job demands, job resources, and sense of work calling. Two weeks later, at T2, they provided information on their work-family conflict, family-work conflict, burnout, subjective career success, and job performance. At T1, we distributed 500 questionnaires to respondents and received a total of 287 valid responses (response rate = 57.4%). Two weeks later, we distributed questionnaires to these 287 respondents who had completed the survey at T1. With regular follow-up, 216 responses were obtained at T2 (overall response rate = 75.26%). Twenty-seven responses were considered invalid due to inappropriate data and dropped from subsequent analysis. Further, six responses were discarded due to missing data, leaving behind a sample of 183 employees. Finally, we checked for the presence of outliers using Boxplots and standardized-*z* scores of all the constructs. Accordingly, eight responses were removed from the data set, and the effective observations stood at 175. A total of 69.1% of the respondents were male. The mean age of the respondents was 27.2 years ($SD = 6.7$). The mean work experience of the respondents was 13.9 months ($SD = 12.6$). A total of 50.3% of the respondents were married.

4.4. Measures

4.4.1. Calling

Calling was measured at T1 with the nine-item multidimensional calling measure (MCM) developed by Hagmaier and Abele (2012). The MCM consists of three subscales, namely, *transcendent guiding force*, *identification and person-environment fit*, and *sense and meaning and value-driven behavior*. Though past calling research had theorized that calling is a multifaceted concept (Dobrow, 2004; Elangovan et al., 2010), Hagmaier and Abele (2012) observed that most of the measures of calling are unidimensional. The only multidimensional measure, i.e., the Calling and Vocation Questionnaire (CVQ) has not been tested on employed individuals but only with students as representative units of observation. Therefore, we found it appropriate to use the MCM developed by Hagmaier and Abele (2012) because it not only captures the multifaceted nature of calling but also has been tested on employed individuals. Sample items are "By doing my job, I serve the common good," and "An inner voice is guiding me in doing my job." The internal consistency reliability (Cronbach's α) value of this scale was found to be 0.92.

4.4.2. Job demands

Job demands were assessed at T1 using three subscales used by Bakker, Demerouti, and Schaufeli (2003). Physical demands were assessed using the seven-item subscale - sample items include "My job involves working in a bending position." Emotional demands were assessed using the five-item subscale - sample items include "My work is emotionally demanding." The workload demands were measured using the five-item subscale - sample items include "My job requires working very hard." The internal consistency reliability (Cronbach's α) value of the job demands scale was found to be 0.84.

4.4.3. Job resources

Job resources were assessed using three subscales at T1. Co-worker support was measured using the four-item subscale used by Loi et al. (2014) - sample item is "My coworkers make work life easier." Perceived Supervisor support was measured using the six-item subscale introduced by Eisenberger et al. (2002) - sample item is "My supervisor really cares about my well-being." Perceived organizational support was measured using the six-item subscale formulated by Eisenberger et al. (2001) - sample item is "My organization takes pride in my accomplishments." The internal consistency reliability (Cronbach's α) value of the job demands scale was found to be 0.89.

4.4.4. Work-family conflict

Work-family conflict was assessed using the five-item scale developed by Netemeyer et al. (1996) - sample item is "The demands of my work interfere with my home and family life." The internal consistency reliability (Cronbach's α) value of this scale was found to be

Table 1
Descriptive Statistics, composite reliability, and Bivariate (Pearson) Correlations.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender ^a	1.31	0.46	–											
2. Age	27.22	6.69	–0.25**	–										
3. Work ex	13.90	12.60	–0.08	0.25**	–									
4. Marital status ^b	1.50	0.50	–0.18*	0.46**	0.09	–								
5. Work calling	3.12	0.99	–0.09	0.10	–0.01	0.05	(0.92)							
6. Job demands	2.97	0.49	–0.04	–0.05	0.001	0.08	0.10	(0.84)						
7. Job resources	2.91	0.73	0.02	–0.06	–0.003	–0.02	–0.17*	–0.07	(0.89)					
8. WFC	3.05	0.86	–0.06	–0.004	–0.05	0.05	0.48**	0.58**	–0.12	(0.81)				
9. FWC	2.78	1.16	–0.07	–0.03	–0.01	0.02	0.62**	0.66**	–0.12	0.67**	(0.91)			
10. Burnout	3.00	1.19	–0.07	0.04	0.005	0.03	0.66**	0.65**	–0.12	0.65**	0.82**	(0.94)		
11. Job perf.	3.04	0.84	–0.17*	0.09	0.02	0.08	0.47**	–0.21**	0.24**	0.03	0.20**	0.22**	(0.81)	
12. Subjective career success	3.43	0.83	–0.12	0.11	–0.02	0.03	0.69**	–0.13***	0.27**	0.21**	0.38**	0.44**	0.68**	(0.81)

$N = 175$; ^a for gender, 1 = Male and 2 = Female; ^b for marital status, 1 = Unmarried, 2 = Married, and 3 = other. Diagonal elements represent Cronbach's α .

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

0.81.

4.4.5. Family-work conflict

The family-work conflict was assessed using the five-item scale developed by [Netemeyer et al. \(1996\)](#) - sample item is "The demands of my family or spouse/partner interfere with work-related activities." The internal consistency reliability (Cronbach's α) value of this scale was found to be 0.91.

4.4.6. Burnout

Burnout was measured using the seven-item scale developed by [Bacharach et al. \(1991\)](#). This scale was suitable for the context of our study and has also been used previously in the health care sector to measure the burnout level of nurses. A sample item includes "I have experienced periods of fatigue when I couldn't get going." The internal consistency reliability (Cronbach's α) value of this scale was found to be 0.94.

4.4.7. Subjective career success

Subjective career success was measured by using the six-item scale used by [Abele and Spurk \(2009\)](#). A sample item is "I am satisfied with the success I have achieved in my career." The internal consistency reliability (Cronbach's α) value of this scale was found to be 0.81.

4.4.8. Job performance

Job performance was assessed using the six-item self-report scale developed by [Singh et al. \(1996\)](#). This scale has been used previously to capture the self-reported job performance of nursing staff ([Sharma & Dhar, 2016](#)). A sample item is "How would you rate yourself in terms of the quantity of work you achieve". The internal consistency reliability (Cronbach's α) value of this scale was found to be 0.81.

4.4.9. Controls

We controlled for the participants' demographic attributes like age, gender, total work experience in their job, and their marital status.

4.5. Analytic strategies

Before testing the hypothesized relationships, the measurement model was assessed by conducting confirmatory factor analysis in AMOS graphics (version 19). The proposed eight-factor model structure (Work calling, work-family conflict, family-work conflict, burnout, subjective job success, job performance, job demands and job resources) was found to be a reasonable fit with the data ($\chi^2/df = 1.36$, GFI = 0.75, TLI = 0.91, CFI = 0.92, RMSEA = 0.05, SRMR = 0.06). The hypothesized eight-factor model was found to be the best fit with the data among all other alternate models, including the five factor model in which positive outcomes and negative outcomes were merged into two separate factors (Work calling, WFC + FWC + Burnout, Subjective Job success + Job performance, Job demands, Job resources) ($\chi^2/df = 1.52$, GFI = 0.71, TLI = 0.87, CFI = 0.88, RMSEA = 0.06, SRMR = 0.07).

Hypotheses testing was carried out by applying the partial least squares structural equation modeling (PLS-SEM) technique using SmartPLS 3.0 software. PLS-SEM has been used extensively not only in HRM research ([Ringle et al., 2020](#)), but also across all management research ([Hair, Sarstedt, Pieper, & Ringle, 2012](#); [Henseler et al., 2016](#)). There have been recent criticisms of this technique as an alternate to conventional covariance-based SEM (CB-SEM) (e.g., [Rönkkö et al., 2015](#); [Willaby et al., 2015](#)). Although, low sample size and data distribution reasons (for instance, non-normality) do not justify the use of PLS-SEM ([Rigdon, 2016](#)), PLS-SEM serves as a promising method for prediction purposes ([Henseler et al., 2016](#)). For the purpose of this study, we used PLS for three main reasons. In PLS-SEM, both the measurement and structural models can be assessed with regards to their predictive validity ([Henseler et al., 2016](#)). Given the novel context of understanding work calling for invisible dirty work, we found it best to analyze the hypothesized model by emphasizing more on the predictive role of work calling on the outcome variables. Second, PLS-SEM also allows the analysis of complex models with multiple constructs better than CB-SEM ([Hair, Sarstedt, Ringle, & Mena, 2012](#)). A model can be categorized as a complex model if it comprises of 10 or more constructs and 50 or more items ([Chin et al., 2003](#)). Consistent with prior definition, the present hypothesized model can be classified as a complex model. Lastly, PLS path modeling is better than conventional CB-SEM for models involving moderation ([Chin et al., 2003](#)).

5. Results

5.1. Reliability and validity of measurement

Table 1 presents the descriptive statistics, inter-construct correlations, and internal consistency reliability (Cronbach's α) values of our latent constructs. Reliability was achieved as the Cronbach's α and composite reliability values of all the constructs were well-above 0.70 ([Nunnally & Bernstein, 1994](#)). Further the values of AVE and composite reliability were greater than 0.50 and 0.70, respectively ([Hair et al., 2006](#)). Hence, convergent validity was also achieved. Finally, we followed [Fornell and Larcker's \(1981\)](#) criterion to check for discriminant validity. As the square roots of AVE were greater than the correlations between constructs, discriminant validity was also achieved. Also, an analysis of cross-loadings revealed that all scale items had the highest loadings on

their associated construct, which provided additional evidence for discriminant validity (Hair et al., 2014). Further, the Variance inflation factor (VIF) values were all below the threshold of 5, indicating that there were no multicollinearity issues in our analysis.

5.2. Correlations

As shown in Table 2, work calling correlated with work-family conflict ($r = 0.48, p < 0.01$); family-work conflict ($r = 0.62, p < 0.01$); burnout ($r = 0.66, p < 0.01$); job performance ($r = 0.47, p < 0.01$); and subjective career success ($r = 0.69, p < 0.01$). As we collected the responses from a single group of respondents, we suspected that our data might be contaminated by common method variance (CMV) bias. Hence, we conducted Harman's single factor test to check for the presence of CMV (Podsakoff & Organ, 1986). No single factor explained more than 50% of the variance in the data, indicating that CMV was not a major concern. Also, the collection of independent and dependent variables was separated by a time lag of two weeks to alleviate the concern of common method variance bias (Podsakoff et al., 2003).

5.3. Power analysis

Scholars recommend that the minimum sample size required for a PLS-SEM analysis is “ten times the largest number of inner model paths directed at a particular construct in the inner model” (Hair et al., 2014, p. 109). The largest number of inner model paths directed at a particular construct in our model was seven. Therefore, the minimum sample size is 70, and our sample size of 175 participants fully satisfies this criterion. Power analysis was also carried out to compute the minimum sample size required for testing the proposed conceptual model at an effect size of 0.1, 5% error probability, and 95% power. The results of power analysis indicated that the minimum sample size required is 133 and our final sample size of 175 satisfies this requirement.

5.4. Hypotheses testing

The results of the hypotheses testing are summarized in Table 2. As shown in Table 2, work calling was positively related to work-family conflict ($\beta = 0.53, p < 0.001$); family-work conflict ($\beta = 0.60, p < 0.001$); burnout ($\beta = 0.66, p < 0.001$); job performance ($\beta = 0.59, p < 0.001$); and subjective career success ($\beta = 0.79, p < 0.001$). Hence, Hypothesis 1 was fully supported. The adjusted- R^2 values for work-family conflict, family-work conflict, burnout, job performance, and subjective career success were 0.55, 0.74, 0.80, 0.45, and 0.70, respectively. The predictive relevance of the model was assessed using Stone and Geisser Q^2 values (Henseler et al., 2016). The Q^2 values of all the endogenous variables, i.e., work-family conflict, family-work conflict, burnout, job performance, and subjective career success were 0.31, 0.58, 0.62, 0.28, and 0.38, respectively.

The moderating effects were tested using the two-stage approach (Henseler & Fassott, 2010). Scholars maintain that the two-stage approach is ideally limited to cases when either the exogenous variables or the moderator variables or both are formative (Henseler & Fassott, 2010). However, some scholars suggest that this limitation is not mandatory and that the two-stage approach can also be

Table 2
Results of PLS analysis: hypotheses testing.

Path	β	t-statistic	Effect-size (f^2)	Bias-corrected confidence intervals	Inference
H1(a): Work calling → Work-family conflict	0.53***	8.36	0.48	[0.40, 0.65]	Supported
H1(b): Work calling → Family-work conflict	0.60***	15.39	1.06	[0.52, 0.67]	Supported
H1(c): Work calling → Burnout	0.66***	16.23	1.65	[0.58, 0.74]	Supported
H1(d): Work calling → Job performance	0.59***	9.85	0.50	[0.47, 0.70]	Supported
H1(e): Work calling → Subjective career success	0.79***	15.54	1.57	[0.69, 0.89]	Supported
H2 (a): Work calling × Job demands → Work-family conflict	0.21***	3.56	0.09	[0.09, 0.32]	Supported
H2 (a): Work calling × Job demands → Family-work conflict	0.08*	2.35	0.03	[0.02, 0.16]	Supported
H2 (a): Work calling × Job demands → Burnout	0.11***	3.98	0.06	[0.06, 0.17]	Supported
H2 (b): Work calling × Job demands → Job performance	0.15**	2.61	0.04	[0.04, 0.26]	Counter-intuitive
H2 (b): Work calling × Job demands → Subj. career success	0.08*	2.00	0.02	[0.01, 0.15]	Counter-intuitive
H3 (a): Work calling × Job resources → Work-family conflict	0.03	0.85	0.002	[-0.04, 0.12]	Not supported
H3 (a): Work calling × Job resources → Family-work conflict	0.05	1.28	0.008	[-0.03, 0.11]	Not supported
H3 (a): Work calling × Job resources → Burnout	0.05	1.59	0.01	[-0.01, 0.11]	Not supported
H3 (b): Work calling × Job resources → Job performance	0.16***	3.32	0.05	[0.05, 0.29]	Supported
H3 (b): Work calling × Job resources → Subj. career success	0.18**	2.47	0.08	[0.07, 0.25]	Supported

N = 175.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

applied to models where there are interaction effects among latent variables with reflective measurement models (Henseler & Chin, 2010). Moreover, the two-stage approach also offers the advantage of parsimonious modeling to our study (Becker et al., 2012). Hence, we found it appropriate to utilize the two-stage approach in our study. The independent and moderator variables were mean-centered to reduce the effect of multicollinearity. Job demands positively moderated the relationship of work calling with work-family conflict ($\beta = 0.21, p < 0.001$); family-work conflict ($\beta = 0.08, p < 0.05$); and burnout ($\beta = 0.11, p < 0.001$) respectively (Figs. 2, 3, and 4). Hence, Hypothesis 2(a) was supported. However, contrary to our hypothesis we found that job demands positively moderated the relationship of work calling with job performance ($\beta = 0.15, p < 0.01$) and subjective career success ($\beta = 0.08, p < 0.05$) respectively (Figs. 5 and 6). Thus, we did not find support for Hypothesis 2(b). Further, simple slope analysis revealed that the positive relationship between work calling and work-family conflict was strengthened when job demands were high ($b = 0.82, t = 9.11, p < 0.001$) but non-significant when they were low ($b = 0.08, t = 0.88, p = 0.17$). On a similar note, we found that that the positive relationship between work calling and family-work conflict was strengthened when job demands were high ($b = 0.29, t = 3.22, p < 0.01$) but non-significant when they were low ($b = 0.14, t = 1.67, p = 0.11$). The positive relationship between work calling and burnout strengthened both for high ($b = 1.07, t = 13.37, p < 0.001$) and low ($b = 0.49, t = 6.12, p < 0.001$) job demands.

Hypothesis 3(a) was not supported as job resources did not significantly moderate the relationship of work calling with work-family conflict ($\beta = 0.03, p = 0.40$), family-work conflict ($\beta = 0.05, p = 0.20$), and burnout ($\beta = 0.05, p = 0.11$) respectively. However, we found complete support for Hypothesis 3(b) as job resources positively moderated the relationship between work calling and job performance ($\beta = 0.16, p < 0.001$), and between work calling and subjective career success ($\beta = 0.18, p < 0.01$) (Figs. 7 and 8). As shown in Table 2, the effect-size (Cohen's- f^2) values, though low, are still above the threshold limit of 0.02, thereby indicating the presence of weak effects (Hair et al., 2008). Further, simple slope analysis showed that the positive relationship between work calling and job performance strengthened both for high ($b = 0.62, t = 5.63, p < 0.001$) and low ($b = 0.28, t = 2.54, p < 0.05$) job demands; and between work calling and subjective career success strengthened both for high ($b = 0.66, t = 7.33, p < 0.001$) and low ($b = 0.54, t = 6.00, p < 0.001$) job demands. So far as the availability of job resources in the workplace are concerned, the positive relationship between work calling and job performance was strengthened for both high ($b = 0.69, t = 9.85, p < 0.001$) and low ($b = 0.16, t = 2.14, p < 0.05$) job resources. Similarly, it was found that the positive relationship between work calling and subjective career success was strengthened for both high ($b = 0.83, t = 16.60, p < 0.001$) and low ($b = 0.39, t = 7.80, p < 0.001$) job resources.

6. Discussion

The results of our study establish that employees perceiving a sense of calling towards their work experience both negative (work-family conflict, family-work conflict and burnout) and positive outcomes (job performance and subjective career success). The negative effects of work calling tend to get exacerbated when the jobs of workers engaged in tainted occupations become excessively demanding. In contrast, the positive effects of work calling in terms of job performance and subjective career success tend to get multiplied when workers are supported by their co-workers, supervisors, and the organization. However, we have observed that even in the presence of high job demands employees' work calling augments their job performance and subjective career success (see Figs. 5 and 6). This unique finding illustrates that even high job demands do not always dampen the positive effects of work calling. We posit that employees who perceive their work as a calling, see high job demands as positive challenges. This finding is in line with transactional theory of stress, which suggests that individuals appraise their job demands as either challenging or threatening (Lazarus & Folkman, 1984). Hindrance job demands refer to "work circumstances that involve excessive or undesirable constraints that interfere with or inhibit an individual's ability to achieve valued goals" (Bakker & Demerouti, 2017, p. 277). In contrast, challenge job demands refer to "demands that cost effort but that potentially promote personal growth and achievement of the employee" (Bakker & Demerouti, 2017, p. 277). Challenging job demands trigger positive attitudinal and behavioral responses among employees, whereas, hindrance job demands tend to evoke negative responses directed towards the workplace (Crawford et al., 2010). Altogether, the application of JD-R model allows us to understand how on one hand calling as a duty forces these employees to make sacrifices that

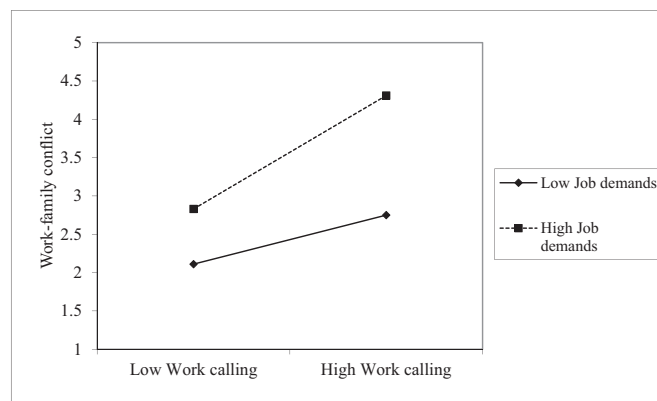


Fig. 2. Job demands positively moderate the relationship of work calling with work-family conflict.

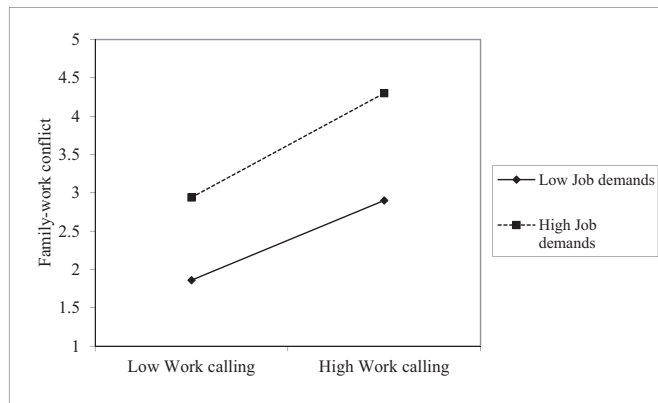


Fig. 3. Job demands positively moderate the relationship of work calling with family-work conflict.

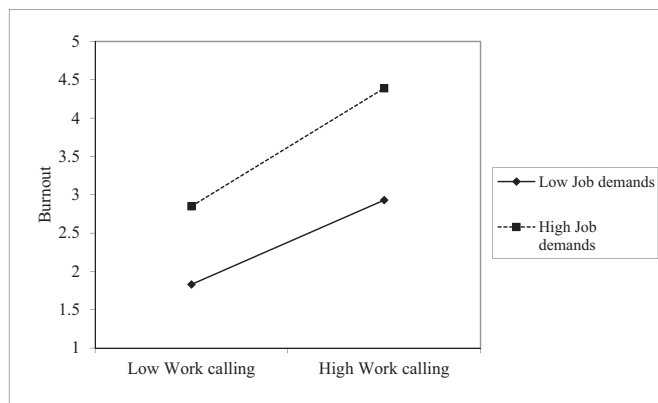


Fig. 4. Job demands positively moderate the relationship of work calling with burnout.

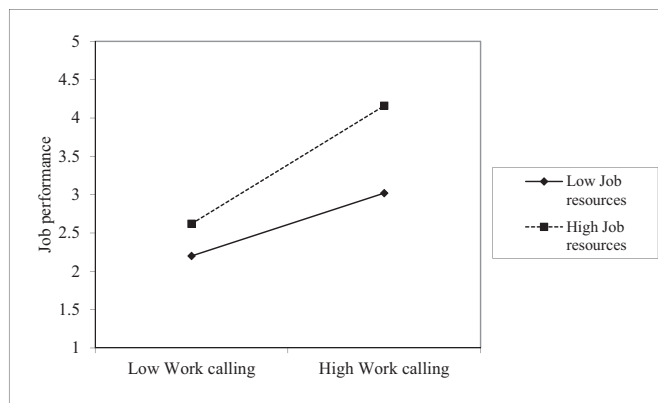


Fig. 7. Job resources positively moderate the relationship of work calling with job performance.

increase conflict between work and family domains, and on the other hand calling acts as a buffer to mitigate any negative effects of job demands on employees' job performance and subjective career success.

6.1. Theoretical contribution

The findings of our study contribute to the academic literature in several ways. First, this study is a novel attempt to integrate three seemingly distinct bodies of research, namely, work calling (Duffy & Dik, 2013), invisible work (Vlasses, 1997), and dirty occupations

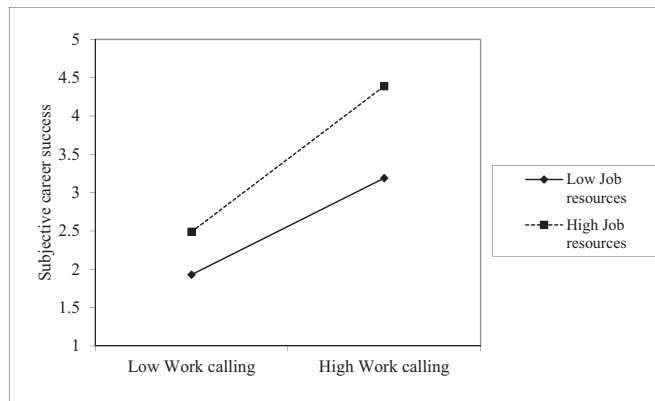


Fig. 8. Job resources positively moderate the relationship of work calling with subjective career success.

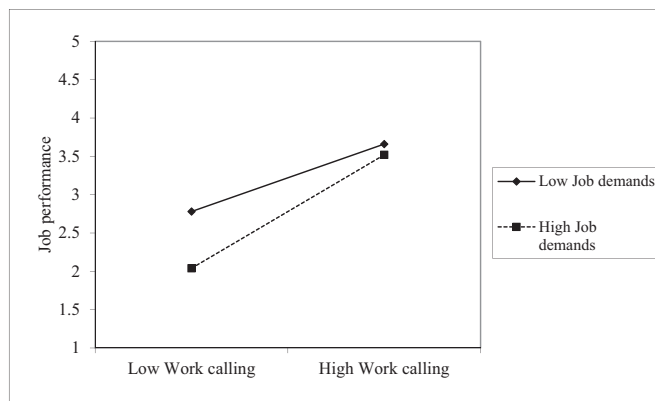


Fig. 5. Job demands positively moderate the relationship of work calling with job performance.

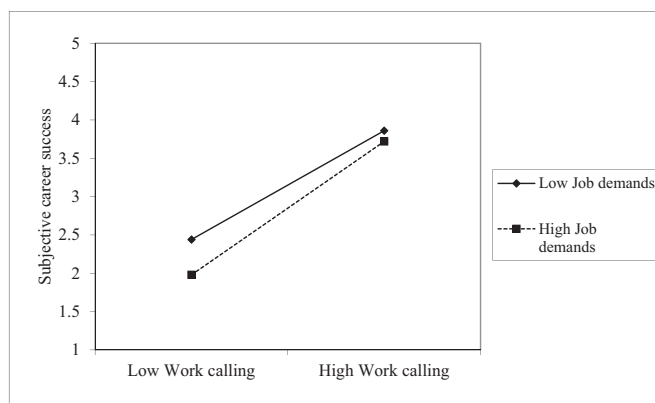


Fig. 6. Job demands positively moderate the relationship of work calling with subjective career success.

(Ashforth & Kreiner, 1999) to explore employee-related outcomes, when a sense of duty based calling prevails in deeply meaningful dirty works. In fact, our study extracts a special type – *invisible-dirty work* – to explicate the effects of work calling for workers engaged in such occupations (Hatton, 2017; Rabelo & Mahalingam, 2019). We earned support in favor of our assertion that the jobs performed by janitors satisfy both *invisibility* and *dirty* (physical and social), and their invisible-dirty job is a mutually constructed reality formed by individual and social interfaces. The janitors, on and off their jobs, feel that they are either *not seen* or *seen as dirty beings*. Hatton (2017) in her work suggested that future studies should expand the invisibility aspect by exploring the types of works and/or occupations that are both *invisible* as well as *dirty*. Further, our work extends the study of Rabelo and Mahalingam (2019) by illustrating when, why, and

how janitors in health care occupation experience *self-protecting invisibility* in dirty work by sensing stigma from people around them at work. The tasks performed by janitors in our study satisfy this condition, and thus, expand the horizon of extant theorization of invisible-dirty work.

Second, in line with [Duffy and Dik \(2013\)](#), our findings provide support to the notion that calling based on duty cannot occur without the focal actor experiencing deeper *meaning* and *sacrifice* simultaneously. For example, the janitorial staff in our context has learnt to embrace both meaning (related to work) and sacrifice (related to self) in their dirty work as effects of work calling without intentionally thinking about it. In fact, the qualitative responses obtained from janitors interpreted in combination with our empirical findings made us realize that meaning and sacrifice are deeply entwined, perhaps more so for individuals engaged in performing invisible-dirty works. Moreover, [Duffy and Dik \(2013\)](#) recommended that scholars look beyond the established positive effects of work calling and endeavor to understand the dark side of work calling ([Duffy et al., 2018](#)). Our study answers this call by demonstrating that both positive and negative outcomes of work calling can co-occur for individual employees. Study findings add to the debate on the “double-edged sword” nature of work calling ([Bunderson & Thompson, 2009](#); [Cardador & Caza, 2012](#); [Hirschi et al., 2019](#); [Lysova et al., 2018](#)) in that the invisible-dirty workers benefitting from pursuing work calling also incurred some hidden costs.

Third, contrary to extant studies, the positive interaction of job demands and work calling to predict job performance and career success suggests a greater propensity to adapt work to the self even for higher job demands. Theoretically, it implies that for a predestined calling already existing among workers in tainted occupations, a sense of challenge seems to trigger higher positive outcomes though they might not have experienced it ever before. This phenomenon can be traced back to the roots of calling as it is invoked when an individual intensively focuses on a specific task, and may discover novel behavioral responses through their own actions during exceptional situations like COVID-19 pandemic. [Bakker and Demerouti \(2017\)](#) explicated that *personal demands* of individuals should be considered to expand JD-R theory. Personal demands have been defined as “the requirements that individuals set for their own performance and behavior that force them to invest effort in their work and are therefore associated with physical and psychological costs” ([Barbier et al., 2013](#), p. 751). In this study, we posit work calling as a personal demand on individual workers to demonstrate its interface with job demands and resources. This is an integration of calling and JD-R theory that otherwise is under represented in scholarly investigation ([Bakker & Demerouti, 2017](#)).

6.2. Practical implications

Findings of our study are particularly relevant for practitioners, policy-makers, and management thinkers in the health care domain. We suggest that enhancing the level of transcendence among frontline health care workers during COVID-19 would generate several positive outcomes for workers, organizations, and society. As these workers' jobs are considered dirty work, they are already subject to social prejudice. It is imperative for employers to regularly acknowledge the importance of the services delivered through these jobs. Doing so would not only reduce the stigma attached to these jobs, but would also inculcate in the workers a sense of self-esteem, pride, and identity towards their jobs. Our findings identify unscheduled irregular job demands as one of the constraints that can negatively impact a worker's work-life balance and feelings of burnout. Hence, employers should strive to reduce the physical, emotional, and workload demands associated with the jobs regularly performed as part of dirty works. For example, employers can try to reduce physical demands by installing the necessary infrastructure so that workers do not have to work in uncomfortable positions. They can also hire sufficient staff so that workers do not have to face excessive workloads. However, our findings also urge the health care practitioners and policy makers that for workers engaged in tainted occupations under the effect of calling, high job demands during a crisis like COVID-19 pandemic enhance their energy and motivation to contribute more (as evidenced by higher job performance and perceived career success). At the same time, we recommend the employers of these workers to foster work environments that are conducive to them in securing support from their supervisors, co-workers, and organizations in smoothly performing the assigned tasks, especially when they are sourced through third-party contract services ([Bakker & de Vries, 2021](#)). [Rattrie et al. \(2020\)](#) reported that in a collectivistic culture with high power distance, individual employees might feel more preoccupied with the achievement of group goals and the work progress of people who are in close interaction with them. Unlike in an individualistic culture, here employees may even neglect resources that could be beneficial for their individual benefits at work, and instead can share limited resources among work group members to achieve common work goals and complete assigned tasks. Our study, conducted in a collectivistic culture characterized with relatively high power distance, implies that the jobs with high workload can substantially enhance individual as well as group performance if the constraint of job resources is taken care of by employers.

6.3. Limitations and future research

The findings of our study should be interpreted with some limitations. First, our sample respondents belonged to a large government hospital officially designated for treating COVID-19 cases. As a result, they all worked with the same employer and experienced a similar work culture and organizational practices. Future studies may consider collecting data from diverse work settings, even within health care service-providing organizations. Nonetheless, we were able to capture a true translation effect of a sense of work calling on employee-related outcomes in both work and family domains. Second, the cross-sectional nature of the data inhibited us from making causal inferences about the hypothesized relationships. Longitudinal research design can be adopted by future studies to overcome this limitation. Though we understand the limitation of PLS-SEM as to its suitability for statistical estimation ([Rönkkö et al., 2015](#)), we chose to use PLS-SEM for its ability to assess predictive validity ([Henseler et al., 2016](#)), analyze complex models ([Hair, Sarstedt, Ringle, & Mena, 2012](#)), and models involving moderation ([Chin et al., 2003](#)). Third, the use of self-reported data in our empirical analysis was a major constraint that did not allow us to examine the behavioral implications of the respondents' sense of work

calling for their seniors, supervisors, co-workers, or patients in the work context. Given the current pandemic situation, despite making efforts, we were not able to secure survey response from supervisors, patients, or patients' family members on workers' behavioral outcomes. We suggest that future studies should examine the role of other contingency variables in work (like family-supportive supervisor behaviors) as well as non-work domains (like spousal support) in elucidating the effects of a sense of calling for people engaged in dirty occupations with multi-source responses. Another avenue for future researchers is to examine how janitors' *self-protecting* invisibility, *alienating* invisibility, and their *intersectional* invisibility can reflect and/or reify the boundary conditions, behaviors, and identity at work. By applying multiple research methods (semi structured interviews, surveys, etc.) concomitantly scholars can get a nuanced understanding of how the invisible dirty workers perceive calling. For instance, do the employees scoring lower on work calling not have a calling, or do they reject taking their current job as a calling?

7. Conclusion

Our study contributes to understanding how work calling for low-profile, tainted occupations can simultaneously inculcate a sense of meaning and sacrifice among frontline health care workers engaged in cleaning the mess during COVID-19 pandemic. Drawing upon job demands-resources theory as a boundary condition, we illustrate how a reduction in workload and an augmentation of workplace support can amplify the favorable outcomes of calling for individual workers performing invisible-dirty works as a routine feature. By exhibiting both positive and negative effects of work calling and positing calling as a personal demand along with job demands and resources faced by individuals in the workplace, we have been able to integrate calling literature with JD-R. We hope that our findings would enable practitioners to design effective interventions to protect the well-being of frontline employees performing invisible-dirty works during critical situations such as the COVID19 pandemic. These front line warriors are offering invaluable services to humankind at the risk of self and family, and we need to reciprocate by designing a better workplace for them.

CRedit authorship contribution statement

Dheeraj Sharma

- Study conceptualization
- Data collection
- Reviewing and editing the manuscript

Koustab Ghosh

- Research model formulation
- Data collection
- Preparation of the manuscript
- Review of data analysis

Madhurima Mishra

- Preparation of the manuscript
- Data analyses
- Formatting the manuscript

Smriti Anand

- Reviewing and editing the manuscript
- Preparation of response to review comments

Declaration of competing interest

The authors have no relevant financial or non-financial conflict of interests to disclose.

References

- Abele, A. E., & Spurk, D. (2009). The longitudinal impact of self-efficacy and career goals on objective and subjective career success. *Journal of Vocational Behavior*, 74 (1), 53–62. <https://doi.org/10.1016/j.jvb.2008.10.005>
- Ashforth, B. E., & Kreiner, G. E. (1999). How can you do it?: Dirty work and the challenge of constructing a positive identity. *Academy of Management Review*, 24(3), 413–434. <https://doi.org/10.5465/AMR.1999.2202129>
- Ashforth, B. E., & Kreiner, G. E. (2014). Dirty work and dirtier work: Differences in countering physical, social, and moral stigma. *Management and Organization Review*, 10(1), 81–108. <https://doi.org/10.1111/more.12044>
- Bacharach, S. B., Bamberger, P., & Conley, S. (1991). Work-home conflict among nurses and engineers: Mediating the impact of role stress on burnout and satisfaction at work. *Journal of Organizational Behavior*, 12(1), 39–53. <https://doi.org/10.1002/job.4030120104>

- Bakker, A. B., & de Vries, J. D. (2021). Job demands-resources theory and self-regulation: New explanations and remedies for job burnout. *Anxiety, Stress and Coping*, 34(1), 1–21. <https://doi.org/10.1080/10615806.2020.1797695>
- Bakker, A. B., & Demerouti, E. (2014). Job demands-resources theory. In *Wellbeing* (pp. 1–28). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118539415.wbwell019>.
- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. <https://doi.org/10.1037/ocp0000056>
- Bakker, A. B., Demerouti, E., & Schaufeli, W. (2003). Dual processes at work in a call centre: An application of the job demands – resources model. *European Journal of Work and Organizational Psychology*, 12(4), 393–417. <https://doi.org/10.1080/13594320344000165>
- Bakker, A. B., Demerouti, E., Taris, T. W., Schaufeli, W. B., & Schreurs, P. J. G. (2003). A multigroup analysis of the job demands-resources model in four home care organizations. *International Journal of Stress Management*, 10(1), 16–38. <https://doi.org/10.1037/1072-5245.10.1.16>
- Barbier, M., Hansez, I., Chmiel, N., & Demerouti, E. (2013). Performance expectations, personal resources, and job resources: How do they predict work engagement? *European Journal of Work and Organizational Psychology*, 22(6), 750–762. <https://doi.org/10.1080/1359432X.2012.704675>
- Becker, J. M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: Guidelines for using reflective-formative type models. *Long Range Planning*, 45(5–6), 359–394. <https://doi.org/10.1016/j.lrp.2012.10.001>
- Bellah, R., Madsen, R., Sullivan, W., Swidler, A., & Tipton, S. (1985). *Habits of the heart: Individualism and commitment in american life*. Berkeley: University of California Press.
- Bentein, K., Garcia, A., Guerrero, S., & Herrbach, O. (2017). How does social isolation in a context of dirty work increase emotional exhaustion and inhibit work engagement? A process model. *Personnel Review*, 46(8), 1620–1634. <https://doi.org/10.1108/PR-09-2016-0227>
- Bhuyan, A. (2020). *Caring for the carers during the Covid-19 pandemic*. Mint. <https://www.livemint.com/mint-lounge/features/caring-for-the-carers-during-the-covid-19-pandemic-11586265288300.html>.
- Brewer, P., & Venaik, S. (2011). Individualism-collectivism in Hofstede and GLOBE. *Journal of International Business Studies*, 42(3), 436–445. <https://doi.org/10.1057/jibs.2010.62>
- Bunderson, J. S., & Thompson, J. A. (2009). The call of the wild: Zookeepers, callings, and the double-edged sword of deeply meaningful work. *Administrative Science Quarterly*, 54(1), 32–57. <https://doi.org/10.2189/asqu.2009.54.1.32>
- Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (3rd ed.). Routledge.
- Cardador, M. T., & Caza, B. B. (2012). Relational and identity perspectives on healthy versus unhealthy pursuit of callings. *Journal of Career Assessment*, 20(3), 338–353. <https://doi.org/10.1177/1069072711436162>
- Carmeli, A., & Freund, A. (2004). Work commitment, job satisfaction, and job performance: An empirical investigation. *International Journal of Organization Theory & Behavior*, 6(4), 289–309.
- Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2). <https://doi.org/10.1287/isre.14.2.189.16018>
- Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology*, 64(1), 89–136. <https://doi.org/10.1111/j.1744-6570.2010.01203.x>
- Cinque, S., Nyberg, D., & Starkey, K. (2020). ‘Living at the border of poverty’: How theater actors maintain their calling through narrative identity work. *Human Relations*. <https://doi.org/10.1177/0018726720908663>
- Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology*, 95(5), 834–848. <https://doi.org/10.1037/a0019364>
- Dalla Rosa, A., & Vianello, M. (2020). Linking calling with workaholism: Examining obsessive and harmonious passion as mediators and moderators. *Journal of Career Assessment*, 106907272090903. <https://doi.org/10.1177/1069072720909039>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://psycnet.apa.org/buy/2001-06715-012>.
- Dik, B. J., & Duffy, R. D. (2009). Calling and vocation at work. *The Counseling Psychologist*, 37(3), 424–450. <https://doi.org/10.1177/0011000008316430>
- Dobrow, S. (2004). Extreme subjective career success: A new integrated view of having a calling. *Academy of Management Proceedings*, 2004(1), B1–B6. <https://doi.org/10.5465/ambpp.2004.13863838>
- Duffy, R. D., Allan, B. A., Autin, K. L., & Bott, E. M. (2013). Calling and life satisfaction: It's not about having it, it's about living it. *Journal of Counseling Psychology*, 60(1), 42–52. <https://doi.org/10.1037/a0030635>
- Duffy, R. D., Allan, B. A., Autin, K. L., & Douglass, R. P. (2014). Living a calling and work well-being: A longitudinal study. *Journal of Counseling Psychology*, 61(4), 605–615. <https://doi.org/10.1037/cou0000042>
- Duffy, R. D., & Dik, B. J. (2013). Research on calling: What have we learned and where are we going? *Journal of Vocational Behavior*, 83(3), 428–436. <https://doi.org/10.1016/j.jvb.2013.06.006>
- Duffy, R. D., Dik, B. J., Douglass, R. P., England, J. W., & Velez, B. L. (2018). Work as a calling: A theoretical model. *Journal of Counseling Psychology*, 65(4), 423–439. <https://doi.org/10.1037/cou0000276>
- Duffy, R. D., Dik, B. J., & Steger, M. F. (2011). Calling and work-related outcomes: Career commitment as a mediator. *Journal of Vocational Behavior*, 78(2), 210–218. <https://doi.org/10.1016/j.jvb.2010.09.013>
- Duffy, R. D., Douglass, R. P., Autin, K. L., England, J., & Dik, B. J. (2016). Does the dark side of a calling exist? Examining potential negative effects. *Journal of Positive Psychology*, 11(6), 634–646. <https://doi.org/10.1080/17439760.2015.1137626>
- Duffy, R. D., Douglass, R. P., Gensmer, N. P., England, J. W., & Kim, H. J. (2019). An initial examination of the work as calling theory. *Journal of Counseling Psychology*, 66(3), 328–340. <https://doi.org/10.1037/cou0000318>
- Duffy, R. D., England, J. W., Douglass, R. P., Autin, K. L., & Allan, B. A. (2017). Perceiving a calling and well-being: Motivation and access to opportunity as moderators. *Journal of Vocational Behavior*, 98, 127–137. <https://doi.org/10.1016/j.jvb.2016.11.003>
- Duffy, R. D., Foley, P. F., Raque-Bodgan, T. L., Reid-Marks, L., Dik, B. J., Castano, M. C., & Adams, C. M. (2012). Counseling psychologists who view their careers as a calling. *Journal of Career Assessment*, 20(3), 293–308. <https://doi.org/10.1177/1069072711436145>
- Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., & Rhoades, L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, 86(1), 42–51.
- Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology*, 87(3), 565–573. <https://doi.org/10.1037/0021-9010.87.3.565>
- Elangovan, A. R., Pinder, C. C., & McLean, M. (2010). Callings and organizational behavior. *Journal of Vocational Behavior*, 76(3), 428–440. <https://doi.org/10.1016/j.jvb.2009.10.009>
- Erdem, H., & Lucey, D. R. (2021). Healthcare worker infections and deaths due to COVID-19: A survey from 37 nations and a call for WHO to post national data on their website. *International Journal of Infectious Diseases: IJID: Official Publication of the International Society for Infectious Diseases*, 102, 239–241. <https://doi.org/10.1016/j.ijid.2020.10.064>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39. <https://doi.org/10.2307/3151312>
- Hagmaier, T., & Abele, A. E. (2012). The multidimensionality of calling: Conceptualization, measurement and a bicultural perspective. *Journal of Vocational Behavior*, 81(1), 39–51. <https://doi.org/10.1016/j.jvb.2012.04.001>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). Pearson Prentice Hall.
- Hair, J. F., Celsi, M., Ortinau, D. J., & Bush, R. P. (2008). *Essentials of marketing research*. McGraw-Hill/Higher Education.
- Hair, J. F., Sarstedt, M., Hopkins, L., Kuppelwieser, G., & V. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>

- Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: A review of past practices and recommendations for future applications. *Long Range Planning*, 45(5–6), 320–340. <https://doi.org/10.1016/j.lrp.2012.09.008>
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414–433. <https://doi.org/10.1007/s11747-011-0261-6>
- Hatton, E. (2017). Mechanisms of invisibility: Rethinking the concept of invisible work. *Work, Employment and Society*, 31(2), 336–351. <https://doi.org/10.1177/0950017016674894>
- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 17(1), 82–109. <https://doi.org/10.1080/10705510903439003>
- Henseler, J., & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In *Handbook of partial least squares* (pp. 713–735). Berlin Heidelberg: Springer. https://doi.org/10.1007/978-3-540-32827-8_31
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management and Data Systems*, 116(1), 2–20. <https://doi.org/10.1108/IMDS-09-2015-0382>
- Hirschi, A. (2012). Callings and work engagement: Moderated mediation model of work meaningfulness, occupational identity, and occupational self-efficacy. *Journal of Counseling Psychology*, 59(3), 479–485. <https://doi.org/10.1037/a0028949>
- Hirschi, A., Keller, A. C., & Spurk, D. (2019). Calling as a double-edged sword for work-nonwork enrichment and conflict among older workers. *Journal of Vocational Behavior*, 114, 100–111. <https://doi.org/10.1016/j.jvb.2019.02.004>
- Hunter, I., Dik, B. J., & Banning, J. H. (2010). College students' perceptions of calling in work and life: A qualitative analysis. *Journal of Vocational Behavior*, 76(2), 178–186. <https://doi.org/10.1016/j.jvb.2009.10.008>
- Kapoor, C. (2020). *COVID-19: India's frontline heroes decry harassment*. AA News Broadcasting System. <https://www.aa.com.tr/en/asia-pacific/covid-19-indias-frontline-heroes-decry-harassment/1791396>
- Keller, A. C., Spurk, D., Baumeler, F., & Hirschi, A. (2016). Competitive climate and workaholism: Negative sides of future orientation and calling. *Personality and Individual Differences*, 96, 122–126. <https://doi.org/10.1016/j.paid.2016.02.061>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.
- Loi, R., Ao, O. K. Y., & Xu, A. J. (2014). Perceived organizational support and coworker support as antecedents of foreign workers' voice and psychological stress. *International Journal of Hospitality Management*, 36, 23–30. <https://doi.org/10.1016/j.ijhm.2013.08.001>
- Lysova, E. I., Jansen, P. G. W., Khapova, S. N., Plomp, J., & Tims, M. (2018). Examining calling as a double-edged sword for employability. *Journal of Vocational Behavior*, 104, 261–272. <https://doi.org/10.1016/j.jvb.2017.11.006>
- Messing, K. (1998). Hospital trash: Cleaners speak of their role in disease prevention. *Medical Anthropology Quarterly*, 12(2), 168–187. <https://doi.org/10.1525/maq.1998.12.2.168>
- NDTV India News. (2021). *174 Doctors, 116 Nurses, 199 Health Workers Died Due To Covid: Centre*. Retrieved from (accessed on 22 July, 2021) <https://www.ndtv.com/india-news/174-doctors-116-nurses-199-health-workers-died-due-to-covid-centre-2364200>
- Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology*, 81(4), 400–410. <https://doi.org/10.1037/0021-9010.81.4.400>
- Nunnally, J., & Bernstein, I. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Park, J., Sohn, Y. W., & Ha, Y. J. (2016). South Korean salespersons' calling, job performance, and organizational citizenship behavior. *Journal of Career Assessment*, 24(3), 415–428. <https://doi.org/10.1177/1069072715599354>
- Park, Y. (2010). The predictors of subjective career success: An empirical study of employee development in a Korean financial company. *International Journal of Training and Development*, 14(1), 1–15. <https://doi.org/10.1111/j.1468-2419.2009.00337.x>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531–544. <https://doi.org/10.1177/014920638601200408>
- Praskova, A., Hood, M., & Creed, P. A. (2014). Testing a calling model of psychological career success in Australian young adults: A longitudinal study. *Journal of Vocational Behavior*, 85(1), 125–135. <https://doi.org/10.1016/j.jvb.2014.04.004>
- Rabelo, V. C., & Mahalingam, R. (2019). "They really don't want to see us": How cleaners experience invisible 'dirty' work. *Journal of Vocational Behavior*, 113, 103–114. <https://doi.org/10.1016/j.jvb.2018.10.010>
- Rattrie, L. T. B., Kittler, M. G., & Paul, K. I. (2020). Culture, burnout, and engagement: A meta-analysis on national cultural values as moderators in JD-R theory. *Applied Psychology*, 69(1), 176–220. <https://doi.org/10.1111/apps.12209>
- Rigdon, E. E. (2016). Choosing PLS path modeling as analytical method in European management research: A realist perspective. *European Management Journal*, 34(6), 598–605. <https://doi.org/10.1016/j.emj.2016.05.006>
- Ringle, C. M., Sarstedt, M., Mitchell, R., & Gudergan, S. P. (2020). Partial least squares structural equation modeling in HRM research. *International Journal of Human Resource Management*, 31(12), 1617–1643. <https://doi.org/10.1080/09585192.2017.1416655>
- Rönkkö, M., McIntosh, C. N., & Antonakis, J. (2015). On the adoption of partial least squares in psychological research: Caveat emptor. *Personality and Individual Differences*, 87, 76–84. <https://doi.org/10.1016/j.paid.2015.07.019>
- Rudolph, C. W., Katz, I. M., Lavigne, K. N., & Zacher, H. (2017). Job crafting: A meta-analysis of relationships with individual differences, job characteristics, and work outcomes. *Journal of Vocational Behavior*, 102, 112–138. <https://doi.org/10.1016/j.jvb.2017.05.008>
- Schaufeli, W. B., Bakker, A. B., van der Heijden, F. M. M. A., & Prins, J. T. (2009). Workaholism, burnout and well-being among junior doctors: The mediating role of role conflict. *Work & Stress*, 23(2), 155–172. <https://doi.org/10.1080/02678370902834021>
- Schaufeli, W. B., & Greenglass, E. R. (2001). Introduction to special issue on burnout and health. *Psychology & Health*, 16(5), 501–510. <https://doi.org/10.1080/08870440108405523>
- Sharma, J., & Dhar, R. L. (2016). Factors influencing job performance of nursing staff: Mediating role of affective commitment. *Personnel Review*, 45(1), 161–182. <https://doi.org/10.1108/PR-01-2014-0007>
- Singh, J., Verbeke, W., & Rhoads, G. K. (1996). Do organizational practices matter in role stress processes? A study of direct and moderating effects for marketing-oriented boundary spanners. *Journal of Marketing*, 60(3), 69–86. <https://doi.org/10.1177/002224299606000305>
- ten Brummelhuis, L. L., & Bakker, A. B. (2012). A resource perspective on the work-home interface: The work-home resources model. *American Psychologist*, 67(7), 545–556. <https://doi.org/10.1037/a0027974>
- Thompson, J. A., & Christensen, R. K. (2018). Bridging the public service motivation and calling literatures. *Public Administration Review*, 78(3), 444–456. <https://doi.org/10.1111/puar.12913>
- Van Veldhoven, M., Van den Broeck, A., Daniels, K., Bakker, A. B., Tavares, S. M., & Ogbonnaya, C. (2020). Challenging the universality of job resources: Why, when, and for whom are they beneficial? *Applied Psychology*, 69(1), 5–29. <https://doi.org/10.1111/apps.12211>
- Vlasses, F. R. (1997). *Too familiar for words: An analysis of "invisible" nursing work*. Loyola University Chicago. <https://elibrary.ru/item.asp?id=5550996>
- Willaby, H. W., Costa, D. S. J., Burns, B. D., MacCann, C., & Roberts, R. D. (2015). Testing complex models with small sample sizes: A historical overview and empirical demonstration of what partial least squares (PLS) can offer differential psychology. *Personality and Individual Differences*, 84, 73–78. <https://doi.org/10.1016/j.paid.2014.09.008>

- Wilson, C. A., & Britt, T. W. (2020). Living to work: The role of occupational calling in response to challenge and hindrance stressors. *Work and Stress*, 1–21. <https://doi.org/10.1080/02678373.2020.1743791>
- Xie, B., Xia, M., Xin, X., & Zhou, W. (2016). Linking calling to work engagement and subjective career success: The perspective of career construction theory. *Journal of Vocational Behavior*, 94, 70–78. <https://doi.org/10.1016/j.jvb.2016.02.011>
- Xie, B., Zhou, W., Huang, J. L., & Xia, M. (2017). Using goal facilitation theory to explain the relationships between calling and organization-directed citizenship behavior and job satisfaction. *Journal of Vocational Behavior*, 100, 78–87. <https://doi.org/10.1016/j.jvb.2017.03.001>